

Powder Actuated Fastening Systems

WAC 296-807-150

Summary

YOUR RESPONSIBILITY:

Make sure powder actuated fastening systems are used safely

Important:

This section applies to any powder actuated fastening system designed to use the expanding gases from a powder load to propel a stud, pin, fastener, or other object into hard structural material.



Exemption:

This section doesn't apply to:

- Devices designed to attach objects to soft construction material such as wood, plaster, tar, and dry wallboard
- Stud welding equipment.

You must

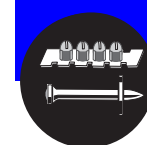
TOOL OPERATORS

Make sure tool operators are qualified
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PERSONAL PROTECTIVE EQUIPMENT

Make sure employees are aware tools are in use and wear appropriate personal protective equipment (PPE)
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Summary

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TOOL DESIGN AND CONSTRUCTION

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and constructed

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LABELING

Make sure tools and containers are properly labeled

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POWDER LOADS

Make sure powder loads and power levels are
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Use proper powder loads

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TOOL USE

Make sure the tool is appropriate to the job

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Make sure the operator uses the tool safely

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Use fasteners safely

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Rule

TOOL OPERATORS

WAC 296-807-15005

Make sure tool operators are qualified

You must

- Make sure tools are used only by qualified operators
- Make sure operators have been trained by an authorized instructor.



Note:

Authorized instructors have to meet the instructor qualifications of ANSI A10.3-1995, Safety Requirements for Powder-Actuated Fastening Systems.

You must

- Make sure all tool operators can:
 - Understand the manufacturer's instructions
 - Clean the tool properly
 - Recognize any visibly worn or damaged parts
 - Identify power load levels
 - Operate the tool correctly.
- Make sure tool operators have a valid qualified operator's card in their possession when they are using the tool.



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Rule

PERSONAL PROTECTIVE EQUIPMENT

WAC 296-807-15010

Make sure employees are aware tools are in use and wear appropriate personal protective equipment (PPE)

You must

(1) Make sure eye or face protection is worn by:

- Tool operators
- Assistants
- Persons close to where the tool is being used.



Reference:

- Use the PPE hazard assessment to determine which employees other than the tool operator need to wear eye protection and the type of eye protection they need to wear. See WAC 296-800-160 in the Safety and Health Core Rules.
- Chapter 296-62 WAC, Part K, Hearing Conservation, may require the use of hearing protection.

You must

(2) Post signs where tools are being used and in adjacent areas where tool use could pose a hazard. Signs must:

- Be easily seen
- Be at least 8 x 10 inches (20 x 25 cm)
- Use letters in boldface type at least one inch (2.5 cm) high
- Read "Powder Actuated Fastening Systems" or similar wording.



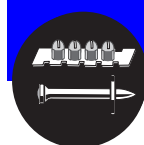
Note:

Tool use could create a hazard in adjacent areas by allowing a fastener to penetrate one or more of the following:

- Wall
- Floor
- Other working surface.

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Rule

TOOL DESIGN AND CONSTRUCTION

WAC 296-807-15015

Make sure tools are adequately designed and constructed

You must

- (1) Make sure the tool meets the design and construction requirements of the American National Standards Institute (ANSI) standard, ANSI A10.3-1995, Safety Requirements for Powder-Actuated Fastening Systems.



Note:

There may be a statement on the tool or in the instruction manual indicating the tool meets the requirements of the appropriate ANSI standard. If in doubt, check with the manufacturer.

You must

- (2) Make sure each tool has:
- Operator instructions and a tool service manual
 - Powder load and fastener chart
 - Service tools and accessories.



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LABELING

Make sure tools and containers are properly labeled

(1) Make sure tools are properly labeled.

- Make sure there is a durable warning label on each tool that:

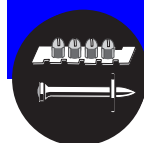
- Reads “\$•mamV_~Op•~x'f~pmd©~*©~,~x"daOaF=~pzF•~p~mV44p•
h"m~O"4>~x~F~Tam'>•~x4>apm~h"m~x"d

- Uses words with the same meaning.

- (2)** Make sure the tool storage container has these labels:

- "zp\$=F•~"4>¤">F=~>ppd on the outside of the container in an easily seen position
- "\$•mamV_~zp\$=F•~"4>¤">F=~>ppd•~~>p~*F'¤'=~pmd©~*©~"-,"¤daOaF=~pzF•">p•~"m=~cFz>~¤m=F~dp4c~"m=~cF©~\$^Fm~mp>"am the inside cover.

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Rule

POWDER LOADS


WAC 296-807-15025

Make sure powder loads and power levels are properly identified

You must

- Make sure powder loads and power levels are identified as specified in Table 3, Powder-Load Identification.

Table 3
Powder-Load Identification

Lowest level  Highest Level	Power level	Color Identification	
		Case Color	Load Color
	1	Brass	Gray
	2	Brass	Brown
	3	Brass	Green
	4	Brass	Yellow
	5	Brass	Red
	6	Brass	Purple
	7	Nickel	Gray
	8	Nickel	Brown
	9	Nickel	Green
	10	Nickel	Yellow
	11	Nickel	Red
	12	Nickel	Purple



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Rule

WAC 296-807-15030

Use proper powder loads

You must

- Use only a powder load that is:
 - Recommended by the tool manufacturer for the particular tool
- OR**
- One that provides the same level of safety and performance.

TOOL USE

WAC 296-807-15035

Make sure the tool is appropriate to the job

You must

- (1) Use the lowest velocity class of tool and load that will properly set the fastener.
- (2) Use the proper shield, fixture, adaptor, or accessory that is:
 - Suitable for the job
 - Recommended and supplied by the manufacturer.

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Rule

WAC 296-807-15040

Make sure the operator uses the tool safely

You must

(1) Make sure the operator:

- Inspects the tool before using it, as recommended by the tool manufacturer
- Uses the tool according to the manufacturer's instructions
- Keeps the tool unloaded until just before using it
- Unloads the tool at once if work is interrupted after the tool has been loaded
- Doesn't leave a tool or powder load unattended where it would be available to an unauthorized person
- Never points a tool (loaded or unloaded) at any part of a person's body.



Note:

A magazine or clip fed tool isn't considered loaded until a powder load is actually in the ram (firing chamber).

You must

(2) Make sure tools aren't used in an explosive or flammable atmosphere.

(3) Do this if the tool misfires:

- Hold it firmly against the work surface for 30 seconds

THEN

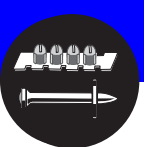
- Follow the instructions in the tool manufacturer's instruction manual.

(4) Hold the tool perpendicular to the work surface when fastening to any material.



Exemption:

This doesn't apply if the tool manufacturer recommends a different technique for a specific job.



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Rule

FASTENERS

WAC 296-807-15045

Use fasteners safely

You must

(1) Use fasteners:

- Recommended by the tool manufacturer for the particular tool

OR

- Fasteners that provide the same level of safety and performance.

(2) Keep the fastener from passing completely through the structural material by using a backing material when driving a fastener into any material that is any of the following:

- Easily penetrated
- Thin
- Of questionable resistance.

(3) Make sure the material is suitable for fastening. Don't drive fasteners into very hard or brittle material such as:

- Cast iron
- Glazed tile
- Hardened steel
- Glass block
- Natural rock
- Hollow tile
- Most brick.

- Continued -

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Rule

WAC 296-807-15045 (Continued)

You must

- (4) Make sure positive alignment with an existing hole is maintained by using a guide or other means supplied or recommended by the tool manufacturer before driving a fastener into the hole.



Helpful Tool:

Center Punch Test

A center punch test will help you determine if the material is suitable.
You can find a copy of this form in the Resources section of this chapter.

You must

- (5) Make sure fasteners aren't driven into any spalled (chipped or crumbled) area.
- (6) Drive fasteners into concrete only if the fastener shank will penetrate no more than 1/3 the thickness of the concrete.
- (7) Make sure fasteners are driven at least:
- 1/2 inch (13 mm) from the edge of steel
 - 3 inches (75 mm) from the unsupported edge of masonry material.



Exemption:

This doesn't apply if an application is specifically required or recommended by the tool manufacturer.



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Rule

INSPECTION AND MAINTENANCE

WAC 296-807-15050

Inspect and maintain tools properly

You must

- Make sure any tool that isn't in proper working condition is:
 - Immediately removed from service
 - Tagged
 - Properly repaired as specified in the manufacturer's instructions before being used again.
- Regularly service the tool and inspect it for worn or damaged parts at intervals recommended by the tool manufacturer.
- Replace worn or damaged parts before the tool is used. This must be done:
 - By a qualified person
 - Using only parts supplied by the tool manufacturer.
- Keep a written record of inspection dates.

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Rule

STORAGE

WAC 296-807-15055

Make sure tools are stored properly

You must

- (1) Make sure there is a container that can be locked for each tool.
- (2) Make sure tools and powder loads that aren't being used are:
 - Locked in a container
 - Stored in a safe place
 - Only available to authorized persons.
- (3) Store all manuals, maintenance tools, and accessories in the tool container when they aren't being used.

